

What is claimed is:

1. A method for making a damped part, comprising:
forming a sand core with at least one dampening structure within said sand core;
locating said sand core with said at least one dampening structure therein in a
5 mold;
casting a part from said mold and said sand core; and
removing said sand core from said part while leaving said at least one dampening
structure in contact with said part.
- 10 2. The method of claim 1, further comprising locating said at least one dampening
structure in a sand core mold and locating sand in said mold.
3. The method of claim 1, wherein said at least one dampening structure is at least
partially encapsulated by said sand in said sand core mold.
- 15 4. The method of claim 3, wherein a binder is added to said sand core mold to
temporarily bind said sand and said at least one dampening structure in a complementary
shape to said sand core mold.
- 20 5. The method of claim 4, wherein molten metal material is located adjacent said
sand core in a part mold and said molten metal material is allowed to solidify.

6. The method of claim 5, wherein said metal material and said sand core are removed from the part mold and the sand core is separated from the metal material.

7. A method for making a damped disc brake rotor, comprising:

- 5 forming a sand core with at least one dampening structure within said sand core;
locating said sand core with said at least one dampening structure in a rotor mold;
casting a rotor from said rotor mold and said sand core, said rotor having a plurality of brake plate supports;
removing said sand core from said rotor; and
10 leaving said at least one dampening structure among said brake plate supports.

8. The method of claim 7, wherein said at least one dampening structure is located in a sand core mold.

- 15 9. The method of claim 8, wherein said sand core mold has a first portion and at least a second portion, said first and second portions define an internal cavity.

10. The method of claim 9, wherein said internal cavity has a plurality of geometric structures located therein.

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11. The method of claim 10, wherein at least one of said first and said second portions has at least one channel and said at least one dampening structure is located within said channel.

12. The method of claim 9, wherein at least one of said first and said second portions has at least one hole in communication with said internal cavity.

13. The method of claim 12, wherein sand is located through said at least one hole to
5 fill said internal cavity.

14. The method of claim 13, wherein at least one of said first and said second portions has at least one aperture in communication with said internal cavity.

10 15. The method of claim 14, wherein a binder is located through said at least one aperture to bind said sand together in said internal cavity.

16. The method of claim 15, wherein said binder and said sand form a sand core having a complementary shape to said geometric structures and said channel of said
15 internal cavity.

17. The method of claim 10, wherein molten material is located in said rotor mold and about said sand core.

20 18. The method of claim 17, wherein said molten material solidifies in a complementary shape to said sand core.

19. The method of claim 18, wherein said molten material solidifies adjacent said geometric structures and said sand core to form a plurality of brake plate supports.

20. The method of claim 7, wherein said at least one dampening structure is
5 constructed of a heat resistant material.

21. The method of claim 7, wherein said at least one dampening structure is constructed of a corrosion resistant material.

10 22. The method of claim 7, wherein said at least one dampening structure has a plurality of air passages.

23. The method of claim 7, wherein said dampening structure is a one-piece construction.

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24. The method of claim 7, wherein said dampening structure is a multi-piece construction.

25. The method of claim 7, wherein said dampening structure has a first end and a
20 second end and said first end connects with said second end.

26. The method of claim 7, wherein said dampening structure is trapped among said brake plate supports thereby reducing or preventing interference of said dampening structure with structures adjacent said rotor.
- 5 27. A damped disc brake rotor, comprising:
a rotor having a plurality of brake plate supports; and
at least one dampening structure cast among said brake plate supports, said at least one dampening structure having a plurality of air passages located therein.
- 10 28. A damped disc brake rotor produced by the process, comprising:
forming a sand core with at least one dampening structure within said sand core;
locating said sand core with said at least one dampening structure in a rotor mold;
casting a rotor from said rotor mold and said sand core, said rotor having a plurality of brake plate supports;
15 removing said sand core from said rotor; and
leaving said at least one dampening structure among said brake plate supports.